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Letter to the Editor

Face masks are new normal after COVID-19 pandemic[☆]

A B S T R A C T

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Coronaviruses are a large family of viruses that may cause illness in humans as well as in animals. In humans, coronaviruses cause respiratory infections ranging from the common cold to more severe diseases such as the Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). To combat this disease; various Nations have adopted many strategies across the globe. The present paper discuss the role and status of various countries related to wearing of masks by the public, as a crucial measure to minimize the spread of virus. Almost all the countries across the globe have favor the use of masks in public with several other measures. Thus, the use of masks in public is an important health measure and new normal after COVID-19 pandemic.

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Dear Editor,

COVID-19 continues to spread and now affecting more than 200 countries and territories across the globe. The scientific communities worldwide have searched for solutions to minimize the spread of the disease with a big push for vaccine and associated medical research using modern technologies [1–5]. Different researchers/technologists/scientists have carried out various studies on the use of masks to minimize disease spread. One such study is known as the Light-scattering experiment that has been carried out by the researchers from the National Institutes of Health (NIH). In this experiment, researchers have used lasers to illuminate the droplets and counted them. They further identified numbers of saliva droplets flung into the air by a person with and without a face mask [6]. This study depicts that droplets spread this virus. We can see directly that a piece of cloth blocks those droplets. People without symptoms who do not even know they are sick are responsible for around half of the transmission of the COVID-19. This research suggests that transmission of COVID-19 by asymptomatic and pre-symptomatic individuals. These studies emphasize that people can spread the virus before realizing that they are sick and that wearing a public mask could help keep the infected person from spreading infectious droplets.

Several types of face masks emphasizing commonly available medical or homemade masks for general public use and N95 masks for health care professionals are suggested by WHO as prevention measures towards the virus's spread. N95 masks have the ability

to filter 95% or more of tiny 0.3- μ m particles. Cloth masks filtered viral particles during coughing at about 50–100% of the filtration efficiency of surgical masks [7,8]. With the connection of virus spread prevention, Venezuela was among the first countries to impose the mandatory use of face masks in public. More than 100 countries, including India, require people to cover their faces when they leave home as preventive action against COVID-19.

Countries have already announced the instructions/guidelines/advice regarding the use of masks. They are legally implementing the wearing of masks in a public place for their people to minimize the spread of the virus. Thus, mask-wearing in a public place seems one of the most effective ways to stop the spread of the virus when compliance is high. Such prevention activity can help to minimize the spread of the disease in a large population. Table 1 shows the brief advice guidelines by different Nations or case status on wearing masks to minimize the transmission of COVID-19. Table 1 relates to various guidelines, but it is not comprehensive. Thus, we have provided a short description to help the readers understand the importance of wearing masks as a new normal afterwards, the COVID-19 pandemic.

The government guidelines and various strategies are supporting the wearing of masks by the public, as well as other measures are well extremely crucial to minimize the spread of the virus. Several countries in Asia, like Hong Kong, Japan, Singapore, etc. adopted mandatory usage of masks during the early phase of the outbreak, leading to a low mortality rate. Thus, the use of masks in public is an important health measure and can become a new normal after COVID-19 pandemic.

[☆] Google Scholar link: <https://scholar.google.co.in/citations?user=rfyiwvsAAAAJ&hl=en>.

Table 1
Advice/Guidelines by different Countries/Organizations on wearing masks.

Country/ Organization	Advice/Guidelines	References
WHO	As per the latest interim advice by WHO on June 5, 2020, related to wearing a medical mask, is one of the prevention measures that can limit the spread of certain respiratory viral diseases, including COVID-19, however, it is clear from the organization that using a mask alone is insufficient to provide an adequate protection level, and other measures should also be adopted.	[9]
United States	The Centers for Disease Control and Prevention advise people to wear a face mask in public. However, there is no federal mandate for the nation wise use of masks.	[10]
Brazil	Face masks are mandatory in several states, such as Rio de Janeiro and Sao Paulo, Brazil. Brazil is the second worst-hit country in the world in the pandemic. Brazilian president does not want to wear a mask in public, thus face mask compliance was 56% by 12 April. However, with lots of deaths, In Brazil, the prevalence of masks has been made mandatory from August 1, 2020.	[11]
India	On 30 January, the first case of coronavirus was diagnosed in India. The Office of the Principal Scientific Adviser to India's Government issued an advisory and manual, asking healthy people to wear handmade reusable face covers when stepping out of their homes on homemade face masks on April 4, 2020. However, mask wear was high both before and after the recommendation. One of the states in India named Jharkhand has imposed the penalty up to Rs 1 lakh (~\$1300) and a jail term up to two years against violators of preventive measures such as not wearing masks in public places.	[12]
Russia	Khabarovsk has made the wearing of face masks obligatory as prevention during the spread of the coronavirus. According to the Russian health ministry, the country should continue to wear masks to prevent new coronavirus infection, despite removing other restrictions.	[13]
South Africa	The Health Ministry of South Africa recommended that the general public use cloth face masks when going out in public on 10 April. From April 8–24, 2020, 85.6% of the public of South Africa agreed that wearing a mask could help to prevent coronavirus infection.	[14]
Mexico	One of the surveys concluded that the prevalence was 31% by 14 March, 36% by 21 March, 46% by 4 April, and 58% by 9 April in Mexico. The government has ordered all Mexico City Metro passengers must wear masks while inside stations and on trains from 17 April.	[15]
Peru	Peru Government mandates for mask-wearing by the public on 3 April 3 From 7 April, the government started distributing free masks to the public after decreeing their mandatory use in the streets to chase away the virus viruses spread.	[16]
Chile	Chilean Health Minister announced that masks would be mandatory on public transport starting from 8 April, Due to the shortage of medical masks; they asked the public to make their own.	[17]
Iran	The Iranian Health Ministry has issued the guidelines and advised that the public wear a mask only if symptomatic or caring. On 24 March, a survey found that 64% of the public is wearing a mask and gloves in crowded places.	[18]
The United Kingdom	Face coverings are made compulsory on public transport in England from 15 June and made compulsory in supermarkets and shops from 24 July. From 10 July, face-covering is compulsory on public transport in Northern Ireland and Scotland. Similarly, Face masks were made compulsory on public transport on Wales from 27 July.	[19]
Spain	Wearing masks has been a must since 4 May while on public transportation in Spain. The Spanish Ministry of Health and the Ministry of Transport maintains the mandatory nature of masks on public roads, open-air spaces, and closed spaces for public use on 9 June.	[20]
Qatar	The country has made wearing of face masks mandatory for government, private sector employees, and clients, shoppers at food catering stores and workers in the contracting sector, etc. in April. On May 17, 2020, the country officials have made wearing masks in public mandatory, with violator's fine of up to 200,000 riyals (\$55,000) or three years in prison.	[21]
Uzbekistan	The Uzbekistan officials have made protective masks mandatory in all major cities as preventive action against the virus. Countries have imposed the fine to the citizens not wearing masks in public in major cities would be fined \$22 for the first offense and \$67 for repeat offenses by 22 March.	[22]
Lebanon	On 29 May, Lebanon authorities announced fines up to 50,000 Lebanese pounds (~\$33) to those not wearing a mask in public.	[23]

Declaration of competing interest

None.

References

- [1] Novel coronavirus (2019-nCoV), WHO, <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>.
- [2] World health organization. Available from: <https://www.who.int/>; 1 August 2020.
- [3] Haleem A, Javaid M, Vaishya R, Deshmukh SG. Areas of academic research with the impact of COVID-19. *Am J Emerg Med* 2020;38(7):1524–6.
- [4] Bhalla N, Pan Y, Yang Z, Payam AF. Opportunities and challenges for biosensors and nanoscale Analytical tools for pandemics: COVID-19 *ACS nano*. 2020.
- [5] Deshmukh S.G., Haleem A, Framework for manufacturing in post-covid-19 world order: an Indian perspective, *International Journal of Global Business and Competitiveness*, 15: 49–60.
- [6] Anfinrud P, Christina E. Bax and adriaan bax, visualizing speech-generated oral fluid droplets with laser Light scattering. *N Engl J Med* 2020;382: 2061–3. <https://doi.org/10.1056/NEJMc2007800>.
- [7] Dugdale CM, Walensky RP. Filtration efficiency, effectiveness, and availability of N95 face masks for COVID-19 prevention. *JAMA Intern Med*. Published online 11 August 2020. <https://doi.org/10.1001/jamainternmed.2020.4218>.
- [8] Davies A, Thompson KA, Giri K, Kafatos G, Walker J, Bennett A. Testing the efficacy of homemade masks: would they protect in an influenza pandemic? *Disaster Med Public Health Prep* 2013;7(4):413–8. <https://doi.org/10.1017/dmp.2013.43>.
- [9] Advice on the use of masks in the context of COVID-19. [https://www.who.int/publications/i/item/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-\(2019-ncov\)-outbreak](https://www.who.int/publications/i/item/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak). Accessed on 20 07 2020.
- [10] CDC calls on Americans to wear masks to prevent COVID-19 spread. <https://www.cdc.gov/media/releases/2020/p0714-americans-to-wear-masks.html>. Accessed on 25 07 2020.
- [11] Brasil confirm primeiro caso do novo coronavírus. Folha de S. Paulo. Available from: <https://www1.folha.uol.com.br/equilibrioesaude/2020/02/brasil-confirma-primeiro-caso-do-novo-coronavirus.shtml>; February 26, 2020. Accessed on 26 07 2020.
- [12] Advisory on the use of homemade protective cover for face & mouth. <https://www.mohfw.gov.in/pdf/Advisory&ManualonuseofHomemadeProtectiveCoverforFace&Mouth.pdf>. Accessed on 26 07 2020.
- [13] Face masks made mandatory in Russia's Khabarovsk to prevent coronavirus spread. Tass; April 7, 2020. Accessed on 26 07 2020.
- [14] Everyone should wear a face mask. <https://sacoronavirus.co.za/10 April; 2020>. Accessed on 27 07 2020.
- [15] YouGov's international COVID-19 tracker reveals changing global attitudes towards the coronavirus. <https://in.yougov.com/en-hi/news/2020/04/20/yougovs-international-covid-19-tracker-reveals-cha/>. Accessed on 27 07 2020.
- [16] Aquino M. Mascarillas gratis: Perú decreta su uso obligatorio para enfrentar el coronavirus. Infobae April 3. Available from: <https://www.infobae.com/america/agencias/2020/04/03/mascarillas-gratis-peru-decreta-su-uso-obligatorio-para-enfrentar-el-coronavirus-3/>; 2020. Accessed on 27 07 2020.
- [17] Chile afirma estar en una 'guerra' por los recursos contra el COVID-19, *Diario Libre*. 6 April 2020. Accessed on July 27, 2020.
- [18] Kakemam E, Ghoddoosi-Nejad D, Chegini Z, Momeni K, Salehinia H, Hassanipour S, Ameri H, Arab-Zozani M. Knowledge, attitudes, and practices among the general population during COVID-19 outbreak in Iran: a national cross-sectional survey. *medRxiv*; 2020.
- [19] McClafferty Edna. Coronavirus: compulsory face coverings on buses, trains, and ferries. 2 Jul 2020. Accessed on 28 July. 2020.
- [20] Press releases the Government approves the royal decree that establishes the measures that will govern the new normal. Ministerio de Sanidad; 9 June. 2020. Accessed on 30 07 2020.
- [21] Qatar makes wearing masks outside mandatory with violators fined up to \$50,000. <https://www.deccanherald.com/international/qatar-makes-wearing-masks-outside-mandatory-with-violators-fined-up-to-50000->

- 837797.html. Accessed on 14 08 2020.
- [22] Afghanistan reports first coronavirus fatality; Uzbekistan makes protective masks mandatory. *The Times of Central Asia*; 23 March 2020.
- [23] Wearing masks will now Be mandatory in Lebanon. <https://www.the961.com/masks-mandatory-in-lebanon/>. Accessed on 14 08 2020.

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